

# MASTER ELECTRICIAN

## PURPOSE:

To properly plan, lay out, and supervise the installation and repair of wiring apparatus and equipment for electrical light, heat, power, and other purposes.

## FUNCTIONAL AREAS:

1. Perform skilled electrical work in the installation, maintenance, and repair of electrical systems.
  - \* A. Perform the installation of conduit, including electrical-metallic tubing, plasticmold, and wiremold.
  - \* B. Perform the installation of transformers, control boards, electronic circuits, coils, circuit breakers, voltage regulators, switches, fuses, and related electrical equipment in electrical generating and distributing stations and buildings.
  - \* C. Perform additions, extensions, or alterations to electrical installations for power, light, heat, and appliances in buildings and on grounds.
  - \* D. Troubleshoot, perform repairs, and test a variety of motors, electrical circuits, machinery, transformers, meters, and recording instruments.
  - \* E. Perform installations and connections of motors, lights, controllers, voltage regulators, racks, and various electrical fixtures.
  - \* F. Inspect and perform cleaning and maintenance to electrical equipment and motors, including replacement of brushes and necessary parts.
  - \* G. Determine modifications required when obstructions are met while installing electrical systems.
  - H. Ensure a safe work environment.
  - I. Maintain and perform repairs to equipment and tools.
  - J. Attend related training sessions.
  - K. Assist other tradespersons as necessary.
2. Organize and direct the activities of assigned personnel.
  - \* A. Review and interpret blueprints and determine material lists and costs.
  - \* B. Estimate time and materials necessary to perform a job.
  - C. Assist with inspections of new installations and/or modifications performed by others.
  - \* D. Obtain electrical permits for the City of Duluth when required.
  - \* E. Secure meter applications when required.
  - \* F. Direct the work of journeypersons and helpers as assigned.

## JOB REQUIREMENTS

### LICENSE:

- † A. Possess and maintain a State of Minnesota Class "A" Master Electrician license.

- † B. Possess and maintain a State of Minnesota Class “D” Drivers License or equivalent.
- C. Ability to obtain a State of Minnesota Class “B” Drivers License or equivalent.

EXPERIENCE:

- † A. One year of verifiable experience as a licensed Master Electrician.

KNOWLEDGE:

- † A. Thorough knowledge of the National Electrical Code (NEC).
- † B. Thorough knowledge of all applicable laws, rules, and standards regulating electrical construction and installation practices.
- † C. Thorough knowledge of electrical test equipment, instruments, and appliances used in the electrical trade.
- D. Knowledge of electronics and electronic circuits.

SKILLS:

- A. Skill in safe work practices and procedures.
- † B. Skill in operating and maintaining electrical equipment, instruments, appliances, and other electrically operated or controlled devices.
- † C. Skill in the installation, maintenance, and repair of electrical systems.

ABILITIES:

- † A. Ability to read blueprints, diagrams, and schematics.
- † B. Ability to calculate materials costs.
- † C. Ability to estimate time and materials necessary to complete a job.
- † D. Ability to perform soldering and mechanical work.
- † E. Ability to understand and follow oral and written instructions.
- † F. Ability to direct helpers.
- † G. Ability to erect ladders and scaffolding in a safe manner.
- † H. Ability to use hand and power tools.
- † I. Ability to recognize safety hazards and take appropriate precautions.
- † J. Ability to work at heights up to 80 feet.
- K. Ability to establish and maintain effective working relations with co-workers and the public.
- † L. Ability to attend work on a regular basis.
- M. Ability to perform heavy work, which is defined as lifting 100 pounds maximum, with frequent lifting and/or carrying of objects weighing up to 50 pounds.

- \* Essential functions of the job
- ◆ Job requirements necessary on the first day of employment

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CSB 20010306  
CC 20010326  
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